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## RATING OF TEACHERS IN INDIANA

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Every teacher in the public schools of Indiana must have (1) a license or legal permission to teach, and (2) if she has taught she must have also a success grade<sup>1</sup> or legal mark of "schoolroom suc-

<sup>1</sup> The Indiana law regarding success grades reads as follows:

*Items for success grades.*—1. The State Superintendent of Public Instruction is hereby required to provide from time to time such schedule of items as should, in his judgment, enter into the record and grading in the item of a teacher's success by the city, town, and county superintendent of schools. (R.S. 1908, No. 6296.)

*Superintendents furnish items.*—2. It shall be the duty of the city, town, and county superintendents of schools to visit each year the teachers under their charge and supervision, and from personal inspection and otherwise make an itemized statement and grading of the success of each teacher under their charge, and in accordance with the rules and schedule of the state superintendent of public instruction, as provided in section 1 of this act. (R.S. 1908, No. 6380.)

*Issuance and record of success statement.*—3. It shall be the duty of each school superintendent to issue over his signature and deliver to each teacher under his supervision, not later than July 1, each year, such a statement of the success of each as is contemplated in section 2 of this act, and shall keep on file in a permanent record book duplicates of all such statements. A teacher's success grade so issued shall be his legal success grade for one year from date of issuance. (R.S. 1908, No. 6381.)

*Schedule of success items.*

The teacher..... 100 per cent

A. Teaching power..... 45 per cent

Many items enter into this, but the principal ones are preparation of lesson, skill in presentation, and the results attained.

B. Government..... 35 per cent

The teacher's power in government is shown in the general spirit of the school, and in the attitude the pupils take toward their daily tasks, toward each other, and toward the school property.

C. General characteristics..... 20 per cent

Under this head the personality of the teacher, his professional and community interest, and all those qualities that make for the best citizenship should be considered.

NOTE.—The city and town superintendents should hand the success grades to their teachers not later than July 1 each year, and forward copies of the same to the county superintendents, who will keep the official record for the counties. The success grades of all teachers employed by township trustees are issued by the county superintendent.

cess." The license, or legal permission, is employed in most professions and its use is readily recognized, but the use of the success grade is not so universally known. If it is for the purpose of select-

ing successful teachers does it do it? Further, does it indicate the teacher who has not been successful as well as the one who has? Are the supervisors in sympathy with the system? Do they use it to the best advantage? In general, how do teachers rank in success in Indiana? What are the relations between success grades and other factors in teaching, such as years of experience, salary, college training, etc.? In short, what seems to be the general worth of the system as a device for selecting teachers?

Questions like these come to mind almost immediately in thinking of a rating system. They may be answered only in part in the following pages, or they may not be answered at all, but the reader will be shown some of the actual conditions in Indiana from which he may make his interpretations at will.

*The problem.*—The purpose of this study is to show, within certain limits, the actual conditions existing in Indiana as regards the system of rating teachers. These conditions will be shown mainly from two standpoints: (1) from the report of the supervisors responsible for the success grades; (2) from the standpoint of data on individual teachers gathered from the field by the writer.

*Materials.*—The data are taken for the most part from two sources:

1. Replies to a questionnaire sent out during the latter part of July, 1916, to all the supervisors who give success grades. The questionnaire covered the following points:

1. City or county, and number of teachers in your charge.
2. Number of teachers who failed, during the school year 1915-16, to such a degree as to necessitate removal during the school year.
3. The years of experience, the sex, and the kind of school taught by the failures.
4. The principal cause for the failures (in order of importance with the most important first).
5. The lowest success grade given to any teacher in 1915-16, and the highest success grade given the same year.
6. The greatest fault to be found with the present Indiana system of rating teachers.
7. The strong points.
8. How improvement could be made on the present system of rating teachers.
9. Further discussion.

2. Data gathered personally by the writer, which covered 1,765 individual teachers from 14 different school systems scattered over the northern half of Indiana. These systems range through every kind of public school from the one-room country school to one of the largest systems of the state. The specific items of investigation will appear later in connection with the second source.

3. The annual reports of the various systems to the State Department of Public Instruction were utilized.

#### DISCUSSION OF THE QUESTIONNAIRE

*Number and distribution of failures.*—Of the 298 supervisors to whom questionnaires were sent, 134, representing as many different school systems, replied with usable data, 42 counties reporting 5,459 teachers, and 92 cities reporting<sup>1</sup> 3,708 teachers, making a total of 134 systems reporting 9,167 teachers. The facts concerning the failures are as follows:

The total number of failures to such a degree as to necessitate removal is 69. Of these, 39.1 per cent were reported from the cities, and 60.9 per cent from the counties; 53.6 per cent of the failures were in the grades, 18.9 per cent in the high school, and 27.5 per cent were not reported in "kind of school"; 36.2 per cent of the failures were among the men, 62.3 per cent among the women, and 1.5 per cent were not reported by sex; 48 per cent of the men and 32.6 per cent of the women who failed had one year of experience in teaching; 16 per cent of the men and 20.9 per cent of the women who failed had two years of experience; 16 per cent of the men and 25.6 per cent of the women who failed had from three to five years of experience; 8 per cent of the men and 9.3 per cent of the women who failed had from five to ten years of experience; 2.3 per cent of the women who failed had ten years or more of experience; 12 per cent of the men and 9.3 per cent of the women who failed were not reported by years of experience. Some supervisors who had no removals during the year reported (without request) that they had failures whom they would not re-employ for

<sup>1</sup> Throughout this discussion a "city" is a corporation whose teachers are not rated in success by the county superintendent. All corporations whose teachers are marked in success by the county superintendent are counties.

another year. There were 22 failures of this type reported, which, added to 69 removals, make a total of 91 in all. The percentage of "failure to such a degree as to necessitate removal" is  $\frac{3}{4}$  of 1 per cent among 9,167 teachers and is approximately the same for both cities and counties.

Buellesfield, of the University of Illinois, found 2.77 per cent of failure among 4,848 teachers, but his failures include dismissals at the end of, as well as during, the year.<sup>1</sup>

*The principal cause for the failures.*—Item 4 of the questionnaire brought the returns indicated in Table I as compared with four other studies along the same line. This table shows that the factor of discipline is of prime importance, whether considered from the standpoint of merit or from that of failure, and that teaching skill and training are close seconds, etc.

TABLE I  
REASONS FOR FAILURE  
(Numbers Indicate Rank)

	Ruediger and Strayer*	Buellesfield†	Littler‡	Anderson§	This Study
Discipline.....	1	1	1	1	1
Teaching skill and training.....	2	3	3	2	2
Personality.....	4	.....	2	3	3
Initiative and interest..	3	4	4	7	4 (?)
Laziness.....	5	.....	6	.....	5 (?)
Ill health.....	Last	5	Last	.....	(Among last)

\* Ruediger and Strayer, "Qualities of Merit in Teachers," *Journal of Educational Psychology*, May, 1910.

† See note 1, p. 743.

‡ Littler, *School and Home Education*, March, 1914.

§ Anderson, *Selection of Public-School Teachers* (Thesis). State University of Iowa, 1916.

NOTE.—Because no special arrangement was made for ranking, the causes of lesser importance are not absolutely placed.

*Highest and lowest success grades given in 1915-16.*—Table II shows the returns from item 5 of the questionnaire. To interpret this table read down to get the lower limits of the success grades, and across to get the upper limits. For example, tracing down the column of percentages at the left side of the table we come to 96 per cent; following horizontally the 96 per cent line we come to a

<sup>1</sup> Buellesfield, *Why Teachers Fail* (Thesis). University of Illinois, 1914.

"1" in the vertical 98 per cent column. This means that there is one system in Indiana which, according to the report of the chief supervisor, has its lowest success grade at 96 per cent and its highest one at 98 per cent. The remainder of the table is read in the same manner. The totals at the bottom show the upper limits of the 134 school systems, and those to the right show the lower limits for the same 134 systems. The following facts are found in the Table II.

The upper limit is approximately a normal distribution.

The lower limit shows two modes, meaning that there are two standards in the minds of the Indiana supervisors as regards the lower limit for rating their teachers, one at 90 per cent and the other at 85 per cent. There are also secondary modes at 92 per cent and at 80 per cent. The appearance of these modes indicates non-uniformity of marking. Although the modes are not far apart, when the entire scale of 100 is considered, they really are if the main working scale of 80 per cent to 100 per cent is used.

A few systems have comparatively short ranges through which their teachers' success grades run. One system has a range of 96-98 per cent, another 95-97 per cent, another 82-89 per cent, a fourth has 88-90 per cent. It is easy to conceive how small groups of 7 or 11 teachers could fall within these limits of success, and this happens to be true of the first three ranges mentioned. But the 88-90 per cent range has 162 teachers in it. To the average mind it does not seem possible to find so many individuals with so nearly the same ability even in the teaching profession.

It may be surprising to the reader to find that according to the Indiana supervisors there are one or more perfect teachers in at least eight systems of the state.

The comparatively short range of the success grades deserves attention. Of the systems reporting 95.6 per cent have their lower limit at 80 per cent or above, 85.9 per cent are at 85 per cent or above, the median (middlemost) point for the lower limit lies at 89 per cent, while 25 per cent of the 134 systems reporting have their lower limits at 91 per cent or above. The median of the upper limit lies in the 98 per cent group. This leaves a difference of 9 per cent or  $\frac{1}{11}$  of the 100 per cent scale between the medians of the two limits.

An interesting situation presents itself when the section on failures is contrasted with the one on highest and lowest success grades. According to Table II only 19 systems report a lower limit

RANGE OF SUCCESS GRADES OF 134 SYSTEMS OF INDIANA—9,167 TEACHERS  
(Numbers in Table Indicate Systems)

Percentage	Percentage												Totals
	100	99	98	97	96	95	94	93	92	91	90	89	
100.													
99.													
98.													
97.													
96.			1										1
95.				1									1
94.	1	2	4	1									8
93.		3	3										6
92.	2	2	5	3	1								13
91.	1	1	1	1									4
90.		8	12	4	1								25
89.		1	8										9
88.		1	6								1		8
87.		3											3
86.		1	9		1								11
85.	2	6	9	8	1								26
84.	1		1										2
83.			2										2
82.					1							1	2
81.													
80.	1	2	2	1	1								7
79.													
78.													
77.				1									1
76.													
75.			1	1									2
74.													
73.													
72.													
71.													
70.			2										2
69.													
68.													
67.													
66.													
65.													
64.													
63.													
62.													
61.													
60.		1											1
Totals . . . . .	8	31	66	21	6						1	1	134

below 85 per cent, 6 systems below 80 per cent, 2 systems at 70 per cent, and 1 system below 70 per cent. Now the total number of failures reported by these 19 systems whose lower limits are below 85 per cent is 30, leaving 39 failures to be accounted for by those systems whose lower limits for success grades are identical with or above the grade required for the lowest kind of license obtainable. Here then we have shown to us the interesting and possibly significant fact *that teachers in Indiana fail to such a degree as to necessitate removal when their only legal mark of schoolroom success indicates that they are within 15 per cent of perfection.* In fact, there was only 1 failure indicated where the lower limit of the system was below 70 per cent, while there were 10 failures reported in systems whose lower limits were 90 per cent.

*The greatest fault with the Indiana success system.*—Of the 104 replies to this item, 20 supervisors report the greatest fault as being the lack of time for supervision, especially among the county superintendents, causing too much “guess work”; 16 report that the items in the schedule are not specific; 15 supervisors declare that non-uniformity of use is the greatest fault to be found; and 8 say that there is no scientific standard and too much personal estimate. Other faults found are as follows in order of their frequency: (1) not enough detail in the schedule, (2) a tendency to rate too high, (3) salary based on success makes it hard to rate teachers as they should be, (4) superintendents lack courage to act as they think, etc., through causes too numerous to mention.

Seemingly the greatest fault with the system of rating teachers in Indiana, as found by the supervisors themselves, cannot without question be classed as a fault of the system. “Lack of time for supervision” with its consequent “guess work” cannot be fully supplanted in any system in which personal estimate is used. If, however, these supervisors mean to suggest that the system is lacking in scientific standards, as suggested by 8 supervisors mentioned above, they are probably putting a good case. They would have a system, possibly, which eliminates personal estimate, and it is not altogether impossible that such a system could be devised. Our recent measurement of products of teaching suggests a probable means by which it may be accomplished.



*The strong points of the Indiana rating system.*—Only 49 of the 134 supervisors replied to this item: 11 of them thought that the strong point of the system was its potential use as a spur both by the supervisors on the teachers and by the teachers on themselves; 10 supervisors suggested that it stimulates carefulness in work; 7 others agreed that its connection with salary was a good thing and that it forced co-operation in the work outlined by the supervisors; 6 thought that its simplicity was its strongest point; 5 reported that it gave scholarship consideration and that this feature was its strong point. Other replies of less weight, according to the supervisors, are mentioned, and the following are among them: one supervisor says its strong point is its "brevity"; another says its "generality"; another that it helps a superintendent to get his teachers into a position to "overcome" examinations; another writes that its only "strong point is an organized attempt"; another says that it "has none, absolutely worthless." There is one "strong point" reported only once which we found to be used somewhat extensively: "a leverage for the superintendent."

In contrasting the "faults" with the "strong points" we find 5 supervisors who class the connection of salary with the success grade as one of its greatest faults; in the "strong points" there are 7 who think such a connection a good thing.

In the "strong points" 4 supervisors think that the success grades are good to show the teacher where improvement may be made, while 3 think that one of its greatest faults is that the teacher is unable to determine from it where her weakness lies. The 7 supervisors who think "forcing co-operation" is the system's strong point might be contrasted, with the view to explanation, with the 15 supervisors who found the greatest fault to be "non-uniformity of use." These contrasts seem to indicate a considerable diversity of opinion among the Indiana supervisors as regards the system of rating teachers which the state indorses.

*How Indiana could improve her present system of rating teachers.*—In this item 15 supervisors suggest that "closer supervision by persons in direct and frequent contact" (such as building principals) would be a way of improving the present system; 13 think that the

items in the schedule should be more extended and definite; 5 more have the idea that closer supervision by the regular supervisors now in charge would be an improvement; and 4 are courageous enough to suggest that better supervisors would help solve the problem. There is also the small number of 2 supervisors who suggest that a "standard scheme which eliminates partiality and guess work" would be the thing. Judging from the reports of these two, they have in mind some scientific solution of the problem. The total number of replies to this item was 43 out of a possible 134.

*The further discussion.*—On the whole comparatively few "further discussions" were made, but those supervisors who were moved to make them apparently spoke what was in their minds. The following quotations are fair samples: (1) "Make it a reflection on the one who gives the grade if the teacher does not measure up to it." (2) "There should be a different method of securing teachers' wages. His wages depend too much upon the mere ability to answer technical questions on a teachers' exam." (3) "I do not know how it should be done, but there should be less guess work." (4) "Arrange to give the teacher fair play under any superintendent." (5) "One difficulty is that the teachers expect that experience should warrant a raise in success grade with little regard to how effective their teaching may be. With no system of testing the results of their efforts it becomes very difficult for the superintendent to show them [teachers] what grades they really merit." (6) "If we must have success grades let the basis be *classes* and not *points* or *per cent*, and make them stand for real merit and preparation." A portion of a letter from one of the supervisors reads as follows:

When you stop to consider that a teacher who rates 84 per cent (twenty-one twenty-fifths of perfection—and that not on a set of ten questions or a single test, but on a general estimate) is too poor to teach at all, you see how ridiculous the system becomes. In other words, a grade so high that practically no teacher in the state of Indiana *deserves* it will prevent its holder from having a school at all.

Other quotations might be made from the many at hand, but these show the general trend of them. One could easily gather from this discussion that there is some dissatisfaction present.

We have no way at hand of getting a registration of the feeling and experience from the teachers rated. Possibly this would be as valuable as the one we have obtained from the supervisors.

Thus far we have presumed to show only opinion, although in some few instances we were enabled to rise to the level of fact. In the following paragraphs we shall endeavor to present within limits the conditions with regard to success grades as they actually exist in 14 systems in the northern half of Indiana, including every kind of public school from the one-room country school to one of the largest school systems of the state.

THE RELATION OF SUCCESS GRADES TO OTHER FACTORS IN TEACHING

The data for this section (except City N) were gathered from the field by the writer personally. The data for City N were tabulated by the office clerk and sent to the writer by the supervisor in charge.

The extent and completeness of the data are due entirely to the excellent co-operation of the supervisors in charge of the 14 systems studied. The systems studied are as follows:

	Teachers
County A.....	135
County B.....	116
County C.....	111
County D.....	105
City E.....	339
City F.....	101
City G.....	133
City H.....	134
City I.....	77
City J.....	152
City K.....	102
City L.....	110
City M.....	88
City N.....	62

14 systems including 1,765 teachers

Total of county teachers is 467

Total of city teachers is 1,298

There is a possible preponderance of city teachers. This is due to limitations of time, expense, and the actual data. The county

supervisors as a rule do not seem to have at hand, in a form that could be utilized, such data as are used in this section.

Table III shows the relations of success grades to other factors of teaching. These relations were found by tabulating the data into correlation tables. For example, in showing the relations of "success grades" to "experience" the data on individual teachers were arranged according to success grades, that is, all the 100 per cent success-grade teachers were placed together, so with the 99 per cent, etc. The 100 per cent group was then arranged according to years of experience, also the 99 per cent group, and so on down. Finally these were all placed in one table arranged horizontally by years of experience and vertically by percentage of success grade. The horizontal totals show the total number of teachers for the various percentages of success grade, and the vertical totals show the number of teachers for the various years of experience. From these totals may be determined the medians (middle cases), quartiles (middle cases of the halves), and the limits. The coefficients of correlation were calculated by the method of unlike signs.<sup>1</sup> The relations of the other factors were calculated in the same manner.

Table III is read thus: In considering the relations of success grades and experience in teaching, data on 1,740 teachers were used. The coefficient of correlation is .75, the median (middle-most) success grade is 96.7 per cent, the median amount of experience is 8 years, the upper quartile (middle of the upper 50 per cent) is 98.2 per cent in the success grades and the experience is 15.3 years. The lower quartiles (middle of lower 50 per cent of each factor) are 94.2 per cent for success and 3.9 years for experience. In the limits we find that 100 per cent was the highest success grade given and 75 per cent was the lowest, that 56 years was the largest amount of experience anyone had, and that somewhat less than one year was the least. Likewise the other relationships may be read.

*Success and experience.*—The high coefficient of correlation between these factors shows that among teachers in Indiana an increase in the amount of experience is accompanied by a rise in the success grade. The ratings are all comparatively high. There is a range of only 25 per cent in the 14 systems studied: 75 per cent

<sup>1</sup> See Whipple, *Manual of Physical and Mental Measurements. Simpler Processes.*

of the grades are above 94.2 per cent and 25 per cent are above 98.2 per cent. The correlation table shows that after approximately 15 years of experience there does not tend to be any more improvement in teaching as measured by the Indiana system of rating teachers; after 40 years of experience the success grade tends to grow less. There were 19 cases of 40 years or more of experience.

TABLE III

TABLE SHOWING THE RELATION OF SUCCESS GRADES TO OTHER FACTORS IN TEACHING

Name of Factors	No. of Teachers	Coefficient of Correlation	Medians	Upper Quartiles	Lower Quartiles	Upper Limit	Lower Limit
Success grade and years of experience. . . . .	1,740	.75	{ 96.7% 8 yrs.	98.2% 15.3 yrs.	94.2% 3.9 yrs.	100% 56 yrs.	75% 1 yr.
Success grade and average scholarship. . . . .	1,436	.65	{ 96.7% 93.5%	98.3% 95.7%	93.9% 90.8%	100% 100%	75% 75%
Success grade and salary. . . . .	1,755	.65	{ 96.7% \$78.54	98.2% \$88.13	94.2% \$62.83	100% \$250.00	75% \$40.00*
Success grade and college training. . . . .	1,738	.29	{ 96.7% 1.5 yrs.	98.3% 3.2 yrs.	94.2% 0.8 yr.	100% 10 yrs.	75% 0.3 yr.
Salary and college training. . . . .	1,738	.54	{ \$78.52 1.5 yrs.	\$89.10 3.2 yrs.	\$62.93 0.8 yr.	\$250.00 10 yrs.	\$40.00* 0.3 yr.
Salary (96-100% success group and college training) . . . . .	1,066	.51	{ \$82.50 2.1 yrs.	\$99.53 4 yrs.	\$75.07 1 yr.	\$250.00 10 yrs.	\$40.00* 0.3 yr.
Salary (75-95% success group and college training) . . . . .	672	.66	{ \$61.25 1.1 yrs.	\$74.85 2.2 yrs.	\$51.07 0.7 yr.	\$165.00 5.3 yrs.	\$42.50 0.3 yr.

\* According to law \$42.50 is the lowest possible monthly salary, hence this lower limit must be for a part-time teacher, but no exact assurance could be had.

*Success and average scholarship.*—In general, average scholarship is the average of the grades made on teachers' examinations which determined the teachers' licenses used during 1915-16. The close similarity of these factors is at once apparent. There is, however, no legal connection. This similarity exists because of the situation which governs licenses. The lowest grade license obtainable in Indiana must have at least a general average of 85 per cent. A general average is in general the sum of the average scholarship and

success grades divided by two for those who have taught, and the average-scholarship grade for those who have not taught, in Indiana. This means that neither the success nor the average-scholarship grade can be much below 85 per cent, for either would bar the teacher from holding a license and hence from the teaching profession. The license with its attributes then becomes the determining factor in making both success and average-scholarship grades. It sets practically the same lower limit for both at the outset, and in a way limits the use of both thereafter. Although by law the license is determined by the success and average-scholarship grades, it is quite easy to see how the reverse is true at least for those making a lowest grade license.

*Success grade and salary.*—A minimum salary is set by law for the public-school teachers of the state, and through the various classes of teachers the amount increases in proportion to the experience, success grade, training, and average scholarship, hence a high coefficient of correlation would be expected. This would be true for all those affected by the law, but for those who are paid above the minimum salary it might or might not be true. The coefficient of correlation (.65) indicates, however, that a rise in one factor tends to be accompanied by a rise in the other. This indicates that Indiana pays according to the success of her teachers. Furthermore she measures that success by her system of rating them. The median salaries for the various success-grade groups show a steady increase in salary from 92 per cent to 99 per cent inclusive. The median monthly salary of the 100 per cent group drops \$20.00 from the median of the 99 per cent group.

*Success and college training.*—On the whole, in Indiana, success grades and years of college training (all training above high school) show only a small coefficient of correlation when compared with the coefficients of success grades and the other factors. This means that in the 14 Indiana school systems studied an increase in the amount of college training is accompanied by only a comparatively small rise in success grade. Now Indiana upholds college training by her laws, and expresses her willingness to pay for it. She has the same attitude toward her system of measuring the success of her teachers, hence it might be expected that an increase in the

one would be accompanied by at least a moderate increase of the other.

It is evident from the correlation table that college-trained teachers with various amounts of training get approximately the same success grades. The median success grade for those having one year of training is 96.5 per cent, while the median success grade for those having four years of training is 97.3 per cent. The ranges are identical, and both groups have 236 teachers.

In these 14 systems one teacher in five has 4 or more years of college training. The 100 per cent teachers range from less than  $\frac{1}{3}$  year in training to 10 years. The 98 per cent teachers have the same range.

*Salary and college training.*—Since there is a comparatively large coefficient of correlation (.65) between success grades and salary, and a comparatively small one (.29) between success grades and college training, it was thought advisable to disclose the relation between salary and college training. The three relationships shown in Table III are: (1) the whole number of teachers studied, (2) those having a success grade within the range of 96–100 per cent, (3) those having a success grade within the range of 75–95 per cent inclusive. Perhaps this division roughly separates the group so that the upper section is not much affected by the college-training laws (having taught before the laws came into effect), hence would not be drawn into correlation because of them. The coefficient for the upper group is .51 and for the lower group .66. The groups combined have a coefficient of .54. The medians in Table III show that between the upper and lower groups there is a median difference of one year in college training, which corresponds to a median difference in monthly salary of \$21.25.

Comparing the coefficients of success grades and salary, success grades and college training, salary and college training, the following situations exist:

1. The coefficient of college training and salary is .54.
  2. The coefficient of success and salary is .65.
  3. The coefficient of success and college training is .29.
- This means that (a) increase in college training is accompanied by a fairly large increase in salary; (b) rise in success grade is

accompanied by a fairly large increase in salary; (c) but increase in college training is accompanied by only a comparatively small rise in success.

If increase in college training is accompanied by but a comparatively small rise in success, and Indiana is increasing her salaries for teachers as college training increases (and in a fairly large degree), it would seem that she is using an expensive plan. Indiana increases salary as success grade rises, which indicates that she places a premium on successful teaching. But if college training is accompanied by but a small rise in the success of a teacher, it would seem that Indiana has a discrepancy in her system of training teachers, in her system of rating their success, or in both.

*Median success grades and total average daily attendance divided by total enrolment.*—If the total number of pupils in both the common and high schools be used in a ratio as this:

$$\frac{\text{average daily attendance}}{\text{total enrolment}}$$

for each of the 14 systems studied, and expressed in percentage, and this figure is compared with the median success grades of these same systems, a coefficient of correlation of  $-.17$  is found to exist. (Calculated by the Spearman foot rule.) This means that as the success grades rise there is a slight tendency for the average daily attendance to draw away from the total enrolment.

This situation is somewhat surprising, for it would seem that the more successful teaching would be accompanied by a higher percentage of average daily attendance, which seems not to be true for these 14 systems.

If the median success grades of the high-school teachers be compared with the following ratio:

$$\frac{\text{high-school graduates}}{\text{total first-year enrolment}}$$

expressed in percentage, a coefficient of  $-.17$  is found to exist. In short this seems to signify that in these 14 systems a rise in the teacher's success is accompanied by a slight tendency of the number of high-school graduates to draw away from the total first-year enrolment.



If the median success grades of the high-school teachers be compared with the ratio

$$\frac{\text{high-school graduates}}{\text{total fourth-year enrolment}}$$

expressed in percentage, a coefficient of  $-.23$  is found to exist. This means that, as the success grades rise, there is a slight tendency for the number of high-school graduates to draw away from the total fourth-year enrolment. Or, broadly speaking, that with the growth in success of high-school teachers comes a slightly less chance for high-school Seniors to graduate, in the 14 systems studied.

*Other facts.*—In the 14 systems women are slightly superior to men in teaching, as measured by the Indiana success system, the median for men being 96.6 per cent, for women 96.7 per cent.

On the whole, among 1,752 teachers, the grade teachers have the lowest median success grade, the special teachers next, the high-school teachers third, and kindergarten teachers highest. Of all teachers, 74.3 per cent teach in the grades, 18.3 per cent in the high school, 5.1 per cent in special work, and 1.9 per cent in the kindergarten.

*Distribution of success grades in 14 systems.*—Table IV shows the distribution of success grades throughout the 14 systems studied. At the right are the totals for percentages of success grades, and below the totals for the various cities and counties with their median success grades.

*Observations and suggestions.*—Finally it would seem that the Indiana system is a step in the solution of the problem of rating teachers. As one supervisor reported, "it is an organized attempt," and surely with all its seeming injustice it is better than no system. It may be that further investigation would reveal many good points which this study has failed to show.

On the other hand the incongruities thus far disclosed and the possibility of discovering others in the fields yet untouched indicate that further and much more detailed investigation should be made. The fact that 14 per cent of the teachers who failed sufficiently to necessitate removal from their position during the year have a success grade of 90 per cent or more, coupled with the facts that some

of the supervisors practically ignore the use of the system and many more use it in an extremely formal manner only, seem to suggest that all is not right.

TABLE IV

DISTRIBUTION OF SUCCESS GRADES OF 1,765 TEACHERS IN 14 SYSTEMS OF INDIANA

PER CENT OF SUCCESS	NAME OF SYSTEM														TOTAL OF CASES
	County				City										
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
100.....					107										107
99.....			13	1	25		2	6		8	1			13	69
98.....	8	19	14	2	33	3	9	46	13	75	49	18	29	30	348
97.....	4	14	8	6	23	2	25	36	14	50	18	34	24	12	270
96.....	6	17	14	15	58	61	28	27	12	10	12	17	10	3	290
95.....	24	11	12	6	14	2	27	11	12	7	8	18	14	4	170
94.....	12	7	2	8	7		20	3	7	1	2	9	7		85
93.....	12	8	8	6	17	2	6	1	7		6	3	2		78
92.....	13	6	4	22	15		10		9		3	8	1		91
91.....	2	7	5	15	7	26	1				1	1			65
90.....	16	11	11	13	18		1	3	2	1	2	2	1		81
89.....	1	5	1	5	10		2	1	1						26
88.....	34	7	11	6	2		1								61
87.....		2	4		1	2	1								10
86.....	1	2	4		1	3									11
85.....					1						1				1
80.....	1														1
75.....	1														1
Total...	135	116	111	105	339	101	133	134	77	152	102	110	88	62	1,765
Median (per cent).....	92.9	95.3	95.5	92.6	97.8	96.3	95.9	97.6	96.1	98.1	97.9	96.7	97.4	98.4	96.7

If one thing looms up larger than any other it is the realization that before we can make any satisfactory check on the teacher's work we must be able to measure the "products" of her teaching and must have some common standard or standards by which to do it. This is the task yet to be done. This study has only begun the investigation. It has presumed to show conditions only, and from but two standpoints. It is left for future investigation to make further attacks on the problem and to obtain definite, positive recommendations which Indiana may use to rate more efficiently her splendid corps of teachers.